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TRANSITION PROBABILITIES FOR STUDENT-TEACHER POPULATION GROWTH MODEL (DYNAMOD II).

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THIS NOTE PRESENTS THE TRANSITION PROBABILITIES CURRENTLY IN USE IN DYNAMOD II. THE ESTIMATING PROCEDURES USED TO DERIVE THESE PROBABILITIES WERE DISCUSSED IN THESE RELATED DOCUMENTS--EA 001 016, EA 001 017, EA 001 018, AND EA 001 063. THE TRANSIT ON PROBABILITIES FOR FOUR SEX-RACE GROUPS ARE SHOWN ALONG WITH THE DONOR-RECEIVER CODES TO WHICH THEY RELATE. (HW)

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NATIONAL CENTER FOR EDUCATIONAL STATISTICS
Division of Operations Analysis

TRANSITION PROBABILITIES
FOR STUDENT-TEACHER POPULATION GROWTH MODEL
(DYNAMOD II)

by

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DYNAMOD II Transition Probabilities

This note presents the transition probabilities currently in use in DYNAMOD II. The various estimation procedures used to derive these probabilities are discussed in the following notes:

1. Judith R. Zinter, Estimation of Age Transition Probabilities, Technical Note Number 12, Division of Operation Analysis, National Center for Educational Statistics, U. S. Office of Education, December, 1966.

2. Edward K. Zabrowski and John T. Hudman, Dropout and Retention Rate Methodology Used to Estimate First-Stage Elements of the Transition Probability Matrices for DYNAMOD II, Technical Note Number 28, Division of Operations Analysis, National Center for Educational Statistics, U. S. Office of Education, April, 1967.

3. Edward K. Zabrowski, Methodology Used to Estimate First-Stage Elements of the Transition Probability Matrices for DYNAMOD II: Teachers and Extra-System Flows, Technical Note Number 39, Division of Operations Analysis, National Center for Educational Statistics, U. S. Office of Education, September, 1967.

4. Judith R. Zinter, Estimation of Second-Stage Dropout Rates for DYNAMOD II, Technical Note Number 40, Division of Operations Analysis, National Center for Educational Statistics, U. S. Office of Education, August, 1967

The transition probabilities for the four sex-race groups are shown in Table 1 along with the donor/receiver codes to which they relate. Taking the first few entries as an example, Table 1 should be read as follows: .0067 of those individuals in category 11 remains in category 11 the following year, .9878 of them move into category 21, and so on. An interpretation of the donor/receiver codes is given below.

Donor/receiver code	Age group	Educational category
11	0 - 4	Elementary school student
19	0 - 4	Other
21	5 -14	Elementary school student
22	5 -14	Secondary school student
27	5 -14	Elementary school dropout
28	5 -14	Secondary school dropout
29	5 -14	Other
31	15 -19	Elementary school student
32	15 -19	Secondary school student
33	15 -19	College student
37	15 -19	Elementary school dropout
38	15 -19	Secondary school dropout
39	15 -19	Other
41	20 -24	Elementary school student
42	20 -24	Secondary school student
43	20 -24	College student
44	20 -24	Elementary school teacher
45	20 -24	Secondary school teacher
47	20 -24	Elementary school dropout
48	20 -24	Secondary school dropout
49	20 -24	Other
51	25 -44	Elementary school student
52	25 -44	Secondary school student

Donor/receiver code	Age group	Educational category
53	25 - 44	College student
54	25 - 44	Elementary school teacher
55	25 - 44	Secondary school teacher
56	25 - 44	College teacher
57	25 - 44	Elementary school dropout
58	25 - 44	Secondary school dropout
59	25 - 44	Other
64	44 & over	Elementary school teacher
65	44 & over	Secondary school teacher
66	44 & over	College teacher
69	44 & over	Other
70	-	Dead

Table 1.-Transition probabilities currently in use in DYNAMOD II

White Males

DONOR	RECEIVER	PROB.
11	11	.0067
	21	.9878
	70	.0055
19	11	.0178
	19	.7809
	21	.0889
	29	.1069
	70	.0055
21	21	.8738
	22	.0591
	27	.0009
	29	.0141
	31	.0078
	32	.0423
	37	.0015
	70	.0005
22	22	.1129
	28	.0100
	29	.1510
	32	.6523
	33	.0109
	38	.0156
	39	.0468
	70	.0005
27	21	.0111
	29	.3587
	31	.0189
	39	.6108
	70	.0005
28	22	.0117
	29	.3587
	32	.0183
	39	.6108
	70	.0005
29	21	.6900
	22	.0012
	29	.2714
	39	.0369
	70	.0005

DONOR	RECEIVER	PROB.
31	31	.6955
	32	.0912
	37	.1615
	41	.0303
	42	.0202
	70	.0013
32	32	.7521
	33	.0985
	38	.0868
	39	.0021
	42	.0125
	43	.0233
	48	.0230
	49	.0004
	70	.0013
33	33	.6142
	39	.0119
	43	.3530
	44	.0006
	45	.0040
	49	.0152
	70	.0011
37	31	.0240
	39	.5847
	41	.0060
	49	.3840
	70	.0013
38	32	.0240
	39	.5847
	42	.0060
	49	.3840
	70	.0013
39	32	.0029
	33	.0142
	39	.5516
	42	.0004
	43	.0035
	49	.4261
	70	.0013

White Males Cont'd.

DONOR	RECEIVER	PROB.
41	41	.7056
	42	.0812
	47	.0131
	51	.1750
	52	.0201
	57	.0033
	70	.0017
42	42	.6124
	43	.0935
	48	.0470
	49	.0470
	52	.1606
	53	.0232
	58	.0073
	59	.0073
	70	.0017
43	43	.6142
	44	.0036
	45	.0160
	49	.1653
	53	.1527
	54	.0006
	55	.0040
	56	.0017
	59	.0408
	70	.0011
44	44	.7531
	49	.0473
	54	.1868
	59	.0117
	70	.0011
45	44	.0318
	45	.7245
	49	.0441
	54	.0070
	55	.1806
	59	.0109
	70	.0011
47	41	.0240
	49	.7746
	51	.0060
	59	.1937
	70	.0017
48	42	.0240
	49	.7746
	52	.0060
	59	.1937
	70	.0017

DONOR	RECEIVER	PROB.
49	42	.0001
	43	.0108
	45	.0002
	49	.8319
	53	.0024
	59	.1529
	70	.0017
51	51	.8355
	52	.1028
	57	.0558
	69	.0033
	70	.0026
52	52	.7903
	53	.1107
	58	.0441
	59	.0442
	69	.0081
	70	.0026
53	53	.7274
	54	.0028
	55	.0189
	56	.0090
	59	.2266
	64	.0001
	65	.0011
	66	.0006
	69	.0118
	70	.0017
54	54	.8918
	59	.0574
	64	.0411
	69	.0080
	70	.0017
55	54	.0316
	55	.8639
	59	.0525
	64	.0001
	65	.0474
	69	.0028
	70	.0017

White Males Cont'd.

DONOR	RECEIVER	PROB.
56	54	.0005
	55	.0051
	56	.9199
	59	.0224
	64	.0001
	65	.0003
	66	.0469
	69	.0031
	70	.0017
57	51	.0300
	59	.9173
	69	.0501
	70	.0026
58	52	.0300
	59	.9173
	69	.0501
	70	.0026
59	52	.0001
	53	.0013
	54	.0001
	55	.0004
	56	.0007
	59	.9447
	69	.0501
	70	.0026
64	64	.9116
	69	.0784
	70	.0100
65	64	.0284
	65	.8869
	69	.0747
	70	.0100
66	64	.0005
	65	.0057
	66	.9039
	69	.0799
	70	.0100
69	65	.0001
	66	.0004
	69	.9677
	70	.0318
70	70	1.0000

Nonwhite Females

DONOR	RECEIVER	PROB.
11	11	.1019
	21	.8895
	70	.0086
19	11	.0342
	19	.7783
	21	.0906
	29	.0883
	70	.0086
21	21	.8739
	22	.0591
	27	.0149
	31	.0078
	32	.0423
	37	.0015
	70	.0005
22	22	.1026
	28	.0076
	29	.1602
	32	.5928
	33	.0069
	38	.0876
	39	.0418
	70	.0005
27	21	.0162
	29	.9540
	31	.0138
	39	.0155
	70	.0005
28	22	.0162
	29	.9540
	32	.0138
	39	.0155
	70	.0005
29	21	.7729
	29	.1973
	39	.0293
	78	.0005

DONOR	RECEIVER	PROB.
31	31	.6959
	32	.0912
	37	.1442
	41	.0303
	42	.0202
	47	.0174
	70	.0008
32	32	.6841
	33	.0336
	38	.1254
	39	.0842
	42	.0114
	43	.0148
	48	.0313
	49	.0144
	70	.0008
33	33	.6080
	39	.0142
	43	.3499
	44	.0060
	45	.0048
	49	.0164
	70	.0007
37	31	.0240
	39	.5838
	41	.0060
	49	.3854
	70	.0008
38	32	.0240
	39	.5838
	42	.0060
	49	.3854
	70	.0008
39	32	.0022
	33	.0031
	39	.6025
	42	.0006
	43	.0008
	49	.3900
	70	.0008

Nonwhite Females Cont'd.

DONOR	RECEIVER	PROB.
41	41	.7060
	42	.0812
	47	.0131
	51	.1750
	52	.0201
	57	.0033
	70	.0013
42	42	.5570
	43	.0595
	48	.0564
	49	.1274
	52	.1536
	53	.0147
	58	.0141
	59	.0160
	70	.0013
43	43	.6081
	44	.0242
	45	.0194
	49	.1485
	53	.1507
	54	.0060
	55	.0048
	56	.0010
	59	.0366
	70	.0007
44	44	.7342
	49	.0666
	54	.1820
	59	.0165
	70	.0007
45	44	.0424
	45	.6942
	49	.0642
	54	.0105
	55	.1721
	59	.0159
	70	.0007
47	41	.0240
	49	.7993
	51	.0060
	59	.1694
	70	.0013
48	42	.0240
	49	.7993
	52	.0060
	59	.1694
	70	.0013

DONOR	RECEIVER	PROB.
49	43	.0014
	44	.0003
	45	.0001
	49	.8215
	53	.0003
	54	.0001
	55	.0001
	59	.1749
	70	.0013
51	51	.8361
	52	.1029
	57	.0540
	69	.0031
	70	.0039
52	52	.7573
	53	.0704
	58	.0705
	59	.0850
	69	.0129
	70	.0039
53	53	.7201
	54	.0287
	55	.0229
	56	.0049
	59	.2085
	64	.0015
	65	.0012
	66	.0002
	69	.0107
	70	.0013
54	54	.8695
	59	.0808
	64	.0443
	69	.0041
	70	.0013
55	54	.0502
	55	.8221
	59	.0779
	64	.0026
	65	.0419
	69	.0040
	70	.0013

Nonwhite Females Cont'd.

DONOR	RECEIVER	PROB.
56	54	.0096
	55	.0065
	56	.8996
	59	.0346
	64	.0005
	65	.0003
	66	.0442
	69	.0034
	70	.0013
57	51	.0300
	59	.9178
	69	.0483
	70	.0039
58	52	.0300
	59	.9178
	69	.0483
	70	.0039
59	53	.0002
	54	.0004
	55	.0002
	56	.0002
	59	.9468
	69	.0483
	70	.0039
64	64	.8934
	69	.0926
	70	.0140
65	64	.0516
	65	.8447
	69	.0897
	70	.0140
66	64	.0098
	65	.0067
	66	.8914
	69	.0781
	70	.0140
69	64	.0003
	65	.0003
	66	.0001
	69	.9731
	70	.0262
70	70	1.0000

Nonwhite Males

DONOR	RECEIVER	PROB.
11	11	.0443
	21	.9450
	70	.0107
19	11	.0249
	19	.7789
	21	.0857
	29	.0998
	70	.0107
21	21	.8737
	22	.0591
	27	.0048
	29	.0100
	31	.0078
	32	.0424
	37	.0015
	70	.0007
22	22	.1129
	28	.0454
	29	.1156
	32	.6523
	33	.0109
	38	.0513
	39	.0109
	70	.0007
27	21	.0240
	29	.6785
	31	.0060
	39	.2908
	70	.0007
28	22	.0240
	29	.6785
	32	.0060
	39	.2908
	70	.0007
29	21	.7966
	29	.1905
	39	.0122
	70	.0007

DONOR	RECEIVER	PROB.
31	31	.6953
	32	.0912
	37	.1440
	41	.0303
	42	.0202
	47	.0174
	70	.0016
32	32	.7520
	33	.0535
	38	.0869
	39	.0470
	42	.0124
	43	.0232
	48	.0117
	49	.0117
	70	.0016
33	33	.6140
	39	.0118
	43	.3527
	44	.0009
	45	.0040
	49	.0152
	70	.0014
37	31	.0240
	39	.5841
	41	.0060
	49	.3843
	70	.0016
38	32	.0240
	39	.5841
	42	.0060
	49	.3843
	70	.0016
39	32	.0035
	33	.0032
	39	.6014
	43	.0008
	49	.3895
	70	.0016

Nonwhite Males Cont'd.

DONOR	RECEIVER	PROB.
41	41	.7051
	42	.0811
	47	.0131
	51	.1746
	52	.0201
	57	.0032
	70	.0028
42	42	.6119
	43	.0934
	48	.0470
	49	.0470
	52	.1602
	53	.0231
	58	.0073
	59	.0073
	70	.0028
43	43	.6138
	44	.0036
	45	.0160
	49	.1658
	53	.1520
	54	.0009
	55	.0040
	56	.0015
	59	.0410
	70	.0014
44	44	.7525
	49	.0479
	54	.1863
	59	.0119
	70	.0014
45	44	.0317
	45	.7239
	49	.0448
	54	.0079
	55	.1792
	59	.0111
	70	.0014
47	41	.0240
	49	.7983
	51	.0060
	59	.1689
	70	.0028
48	42	.0240
	49	.7983
	52	.0060
	59	.1689
	70	.0028

DONOR	RECEIVER	PROB.
49	43	.0035
	44	.0003
	45	.0001
	49	.8184
	53	.0009
	59	.1740
	70	.0028
51	51	.8348
	52	.1027
	57	.0534
	69	.0030
	70	.0061
52	52	.7889
	53	.1106
	58	.0434
	59	.0434
	69	.0076
	70	.0061
53	53	.7267
	54	.0043
	55	.0189
	56	.0071
	59	.2272
	64	.0002
	65	.0010
	66	.0004
	69	.0114
	70	.0028
54	54	.8910
	59	.0586
	64	.0447
	69	.0029
	70	.0028
55	54	.0376
	55	.8572
	59	.0548
	64	.0019
	65	.0430
	69	.0027
	70	.0028
56	54	.0009
	55	.0051
	56	.9136
	59	.0300
	65	.0003
	66	.0443
	69	.0030
	70	.0028

Nonwhite Males Cont'd.

DONOR	RECEIVER	PROB.
57	51	.0300
	59	.9164
	69	.0475
	70	.0061
58	52	.0300
	59	.9164
	69	.0475
	70	.0061
59	53	.0007
	54	.0001
	55	.0003
	56	.0002
	59	.9451
	69	.0475
	70	.0061
64	64	.9084
	69	.0756
	70	.0160
65	64	.0383
	65	.8738
	69	.0719
	70	.0160
66	64	.0010
	65	.0052
	66	.9007
	69	.0771
	70	.0160
69	64	.0001
	66	.0003
	69	.9644
	70	.0352
70	70	1.0000

White Females

DONOR	RECEIVER	PROB.
11	11	.0068
	21	.9890
	70	.0042
19	11	.0175
	19	.7823
	21	.0893
	29	.1067
	70	.0042
21	21	.8741
	22	.0591
	27	.0018
	29	.0131
	31	.0078
	32	.0423
	37	.0015
	70	.0003
22	22	.1027
	28	.0119
	29	.1558
	32	.6001
	33	.0089
	38	.0320
	39	.0883
	70	.0003
27	21	.0162
	29	.8904
	31	.0138
	39	.0793
	70	.0003
28	22	.0081
	29	.8985
	32	.0219
	39	.0712
	70	.0003
29	21	.7191
	22	.0012
	29	.2050
	32	.0001
	39	.0743
	70	.0003

DONOR	RECEIVER	PROB.
31	31	.6958
	32	.0912
	37	.1436
	41	.0304
	42	.0202
	47	.0183
	70	.0005
32	32	.6943
	33	.0759
	38	.1047
	39	.0576
	42	.0114
	43	.0148
	48	.0262
	49	.0146
	70	.0005
33	33	.6078
	39	.0142
	43	.3514
	44	.0060
	45	.0048
	49	.0154
	70	.0004
37	31	.0240
	39	.5842
	41	.0060
	49	.3853
	70	.0005
38	32	.0240
	39	.5842
	42	.0060
	49	.3853
	70	.0005
39	32	.0026
	33	.0114
	39	.6142
	42	.0006
	43	.0022
	49	.3685
	70	.0005

White Females Cont'd.

DONOR	RECEIVER	PROB.
41	41	.7059
	42	.0812
	47	.0131
	51	.1757
	52	.0202
	57	.0033
	70	.0006
42	42	.5569
	43	.0595
	48	.0343
	49	.1495
	52	.1542
	53	.0148
	58	.0086
	59	.0216
	70	.0006
43	43	.6080
	44	.0272
	45	.0194
	49	.1451
	53	.1514
	54	.0060
	55	.0048
	56	.0010
	59	.0367
	70	.0004
44	44	.7691
	49	.0313
	54	.1827
	59	.0165
	70	.0004
45	44	.0424
	45	.6941
	49	.0638
	54	.0106
	55	.1728
	59	.0159
	70	.0004
47	41	.0240
	49	.7992
	51	.0060
	59	.1702
	70	.0006

DONOR	RECEIVER	PROB.
48	42	.0240
	49	.7992
	52	.0060
	59	.1702
	70	.0006
49	43	.0028
	44	.0009
	45	.0003
	49	.8192
	53	.0007
	54	.0001
	55	.0001
	59	.1753
	70	.0006
51	51	.8363
	52	.1250
	57	.0339
	69	.0034
	70	.0014
52	52	.7625
	53	.0704
	58	.0429
	59	.1092
	69	.0136
	70	.0014
53	53	.7203
	54	.0287
	55	.0229
	56	.0049
	59	.2085
	64	.0015
	65	.0012
	66	.0002
	69	.0112
	70	.0006
54	54	.8697
	59	.0791
	64	.0464
	69	.0042
	70	.0006
55	54	.0502
	55	.8223
	59	.0766
	64	.0027
	65	.0435
	69	.0041
	70	.0006

DONOR	RECEIVER	PROB.
56	54	.0096
	55	.0065
	56	.9053
	59	.0269
	64	.0065
	65	.0003
	66	.0493
	69	.0005
	70	.0006
57	51	.0300
	59	.9180
	69	.0506
	70	.0014
58	52	.0300
	59	.9180
	69	.0506
	70	.0014
59	52	.0001
	53	.0002
	54	.0004
	55	.0003
	56	.0003
	59	.9467
	69	.0506
	70	.0014
64	64	.9065
	69	.0365
	70	.0070
65	64	.0518
	65	.8681
	69	.0731
	70	.0070
66	64	.0099
	65	.0067
	66	.9448
	69	.0316
	70	.0070
69	64	.0006
	65	.0005
	66	.0001
	69	.9766
	70	.0222
70	70	1.0000